

AMENDMENTS TO THE CLAIMS

1. (currently amended) A method for manufacturing an electronic component module having a semiconductor bear chip packaged on a wiring board, said method including:

preparing said wiring board including a wiring pattern, a thermosetting resin film covering an electrode area on said wiring pattern and having insulating particles dispersed and included, and a thermoplastic resin film covering said thermosetting resin film;

pressing a bump of the semiconductor bear chip onto the thermoplastic resin film in a melted state where said thermoplastic resin film is heated and softened, while applying ~~[[a]]~~ an ultrasonic wave, so that the melted thermoplastic resin film is shoved away by said bump of the semiconductor bear chip and that said bump reaches a surface of said thermosetting resin film;

pressing said bump against said thermosetting resin film by continually applying said ultrasonic wave to said bump so that said insulating particles are separated from within the thermosetting resin film, the thermosetting resin film is shaved away by said bump, and said bump makes contact with said electrode area;

ultrasonically bonding said bump and said electrode area by continually applying said ultrasonic wave in a state where said bump and said electrode area are contacted; and

bonding a semiconductor bear chip main body on said wiring board by cooling and solidifying said melted thermoplastic resin.

2. (currently amended) The method for manufacturing the electronic component module according to claim 1, wherein said insulating particles comprise at least one of silicone oxide ~~[[or]]~~ and aluminum oxide ~~is employed as a material of insulating particles.~~

3. (currently amended) The method for manufacturing the electronic component module according to claim 1, wherein said insulating particles comprise tetrafluoroethylene ~~is employed as a material of insulating particles.~~

4. (Original) The method for manufacturing the electronic component module according to claim 1, wherein the content of insulating particles in the thermosetting resin film is 10 to 30%wt in the 100wt% of resin.

5. (Original) The method for manufacturing the electronic component module according to claim 1, wherein the diameters of insulating particles are 70% or more of the thickness of the thermosetting resin film.

6. (Withdrawn) A wiring board for flip chip connecting, comprising:
a wiring pattern;
a thermosetting resin film covering an electrode area on said wiring pattern and having insulating particles dispersed and included; and
a thermoplastic resin film covering said thermosetting resin film.

7. (Withdrawn) The flip chip connecting wiring board according to claim 6, wherein silicone oxide or aluminum oxide is employed as a material of said insulating particles.

8. (Withdrawn) The flip chip connecting wiring board according to claim 6, wherein tetrafluoroethylene is employed as a material of said insulating particles.

9. (Withdrawn) The flip chip connecting wiring board according to claim 6, wherein the content of said insulating particles in the thermosetting resin film is 10 to 30%wt in the 100wt% of resin.

10. (Withdrawn) The flip chip connecting wiring board according to claim 6, wherein the diameters of insulating particles are 70% or more of the thickness of the thermosetting resin film.

11. (Withdrawn) A method of manufacturing a wiring board for flip chip connecting, comprising the steps of:

preparing a base member of a film-like wiring board;
laminating a metal foil on said base member; and
forming an etching pattern required wiring pattern on a surface of said metal foil,
wherein when a wiring pattern is formed through an etching process, a thermosetting
resin having insulating particles dispersed and included is employed as an etching
mask material, and said thermosetting resin is further covered with a thermoplastic
resin.

12. (Withdrawn) The method for manufacturing the flip chip connecting
wiring board according to claim 11, wherein silicone oxide or aluminum oxide is
employed as a material of said insulating particles.

13. (Withdrawn) The method for manufacturing the flip chip connecting
wiring board according to claim 11, wherein tetrafluoroethylene is employed as a
material of said insulating particles.

14. (Withdrawn) The method for manufacturing the flip chip connecting
wiring board according to claim 11, wherein the content of insulating particles in the
thermosetting resin film is 10 to 30%wt in the 100wt% of resin.

15. (Withdrawn) The method for manufacturing the flip chip connecting
wiring board according to claim 11, wherein the diameters of said insulating particles
are 70% or more of the thickness of the thermosetting resin film.

16. (Original) A method for manufacturing an electromagnetically
readable data carrier including integrally a data carrier main body and an electric
component module, said data carrier main body holding a conductor pattern
composing an antenna on a film, said electric component module, in which a
semiconductor bear chip having a transmitting/receiving circuit and a memory, being
packaged on a wiring pattern of said film, sheet or thin plate-like wiring board, said
method having manufacturing method for said electric component module comprising
the steps of:

preparing said film, sheet or thin plate-like wiring board having said wiring pattern, a thermosetting resin film covering an electrode area on said wiring pattern and having insulating particles dispersed and included and a thermoplastic resin film covering said thermosetting resin film;

pressing a bump of the semiconductor bear chip onto the thermoplastic resin film in a melted state where said thermoplastic resin film is heated and softened, while applying an ultrasonic wave, so that the melted thermoplastic resin film is shoved away by said bump of the semiconductor bear chip and that said bump reaches a surface of said thermosetting resin film;

pressing said bump against said thermosetting resin film by continually applying ultrasonic wave to said bump so that said insulating particles are separated from within the thermosetting resin film, the thermosetting resin film is shaved away by said bump, and said bump makes contact with said electrode area;

ultrasonically bonding said bump and said electrode area by continually applying ultrasonic wave in a state where said bump and said electrode area are contacted; and

bonding a semiconductor bear chip main body on said wiring board by cooling and solidifying said melted thermoplastic resin.

17. (Original) The method for manufacturing an electromagnetically readable data carrier according to claim 16, wherein said film-like resin substrate is used for a data carrier main body.

18. (currently amended) The method for manufacturing the electromagnetically readable data carrier according to claim 16, wherein said insulating particles comprise at least one of silicone oxide ~~[[or]]~~ and aluminum oxide ~~is employed as a material of insulating particles.~~

19. (currently amended) The method for manufacturing the electromagnetically readable data carrier according to claim 16, wherein said insulating particles comprise tetrafluoroethylene ~~is employed as a material of insulating particles.~~

20. (Original) The method for manufacturing the electromagnetically readable data carrier according to claim 16, wherein the content of insulating particles in the thermosetting resin film is 10 to 30%wt in the 100wt% of resin.

21. (Original) The method for manufacturing the electromagnetically readable data carrier according to claim 16, wherein the diameters of insulating particles are 70% or more of the thickness of the thermosetting resin film.

22. (Withdrawn) A flip chip connecting wiring board comprising:
a wiring pattern;
a first plastic resin film covering an electrode area on said wiring pattern and having insulating particles dispersed and included; and
a second thermoplastic resin film covering said first thermoplastic resin film;
wherein the resoftening temperature of said first thermoplastic resin film is fully higher than that of said second thermoplastic resin film.

23. (Original) The method for manufacturing an electronic component module according to claim 1, wherein said insulating particles are uniformly dispersed within said thermosetting resin film.

24. (Withdrawn) The wiring board for flip chip connecting according to claim 6, wherein said insulating particles are uniformly dispersed within said thermosetting resin film.

25. (Withdrawn) The method of manufacturing a wiring board for flip chip connecting according to claim 11, wherein said insulating particles are uniformly dispersed within said thermosetting resin film.

26. (Withdrawn) The wiring board for flip chip connecting according to claim 15, wherein said insulating particles are uniformly dispersed within said thermosetting resin film.

27. (Withdrawn) The wiring board for flip chip connecting according to claim 22, wherein said insulating particles are uniformly dispersed within said thermosetting resin film.